WHAT IS CLAIMED IS:

1. A heat mode-applicable image-formation material comprising:

a substrate; and

an image-formation layer on the substrate which contains an infrared absorption agent having at least one surface orientation group in a molecule thereof, solubility of said image-formation layer in an alkaline aqueous solution being changeable by action of near-infrared range radiation.

2. An image-formation material according to claim 1, wherein said infrared absorption agent is an infrared absorber having at least one surface orientation group selected from fluorine-containing substituents and long chain alkyl groups.

3. An image-formation material aceording to claim 1, wherein said infrared absorption agent has absorption at a wavelength from 720 nm to 1200 nm.

4. An image-formation material according to claim 1, wherein said infrared absorption agent is contained in an amount of from 0.01 to 50% by weight with respect to total solids of said image-formation layer.

5. An image-formation material according to claim 1, wherein said image-formation layer is a positive-type image-formation layer.

6. An image-formation material according to claim 1, wherein said image-formation layer is a negative-type image-formation layer.

7. An image-formation material according to claim 5, wherein said image-formation layer comprises an interaction releasing system.

8. An image-formation material according to claim 1, wherein said image-formation layer comprises a radical polymerization layer containing a radical generator and a polymerizable compound.

9. An image-formation material according to claim 8, wherein said radical generator is contained in an amount of from 0.5 to 30% by weight with respect to total solids of said radical polymerization layer.

10. An image-formation material according to claim 8, wherein said polymerizable compound has in a molecule thereof at least two acrylic or methacrylic groups.

11. An image-formation material according to claim 7, wherein said image-formation layer comprises a radical polymerization layer containing a radical generator and a polymerizable compound.

12. An image-formation material according to claim 11, wherein said radical generator is contained in an amount of from 0.5 to 30% by weight

with respect to total solids of said radical polymerization layer.

13. An image-formation material according to claim 11, wherein said polymerizable compound has in a molecule thereof at least two acrylic or methacrylic groups.

14. An image-formation material according to claim 1, wherein said image-formation layer comprises an acid crosslinking layer containing an acid generator and a crosslinking agent.

15. An image-formation material according to claim 14, wherein said acid generator is contained in an amount of 0.01 to 50% by weight with respect to total solids of said acid crosslinking layer.

16. An image-formation material according to claim 14, wherein said crosslinking agent is contained in an amount of from 5 to 70% by weight with respect to total solids of said acid crosslinking layer.

17. An image-formation material according to claim 7, wherein said image-formation layer comprises an acid crosslinking layer containing an acid generator and a crosslinking agent.

18. An image-formation material according to claim 17, wherein said acid generator is contained in an amount of 0.01 to 50% by weight with respect to total solids of said acid crosslinking layer.

19. An image-formation material according to claim 17, wherein said crosslinking agent is contained in an amount of from 5 to 70% by weight with respect to total solids of said acid crosslinking layer.

20. An image-formation material according to claim 1, comprising an acid-decomposable compound, a chemical bond of which can be cleaved, with an acid acting as a catalyst, to increase solubility of the image-formation layer in an alkaline developing solution.

21. An image-formation material according to claim 7, comprising an acid-decomposable compound, a chemical bond of which can be cleaved, with an acid acting as a catalyst, to increase solubility of the image-formation layer in an alkaline developing solution.

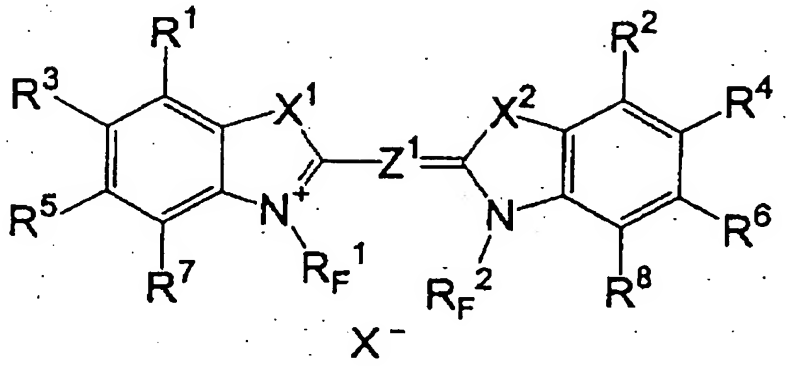
22. An image-formation material according to claim 1, comprising a polarity-conversion material which can be changed from being lipophilic to being hydrophilic by heat.

23. An image-formation material according to claim 7, comprising a polarity-conversion material which can be changed from being lipophilic to being hydrophilic by heat.

24. An infrared absorber comprising, in a molecule thereof, a fluorine-containing substituent which have at least 5 fluorine atoms.

25. An infrared absorber according to claim 24, wherein said infrared

absorber is represented by general formula (1) as follows:



(1)

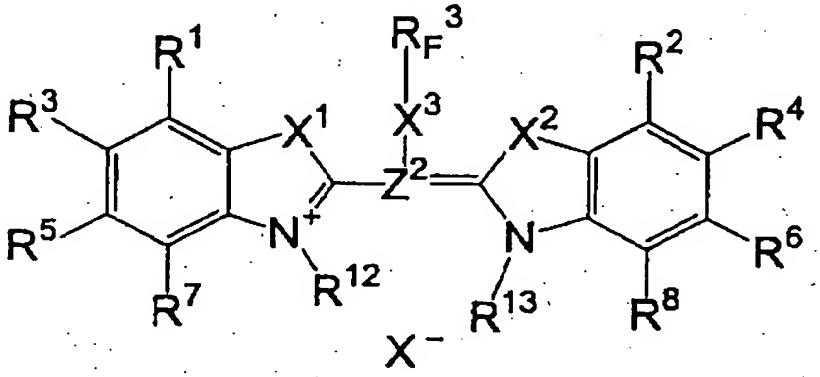
in which formula: each of R_F^1 and R_F^2 independently represents a fluorine-containing substituent having at least 5 fluorine atoms; each of X^1 and X^2 independently represents $-CR^9R^{10}-$, -S-, -Se-, $-NR^{11}-$, -CH=CH- or -O-; R^1 to R^8 each independently represents a hydrogen atom, alkyl group, alkoxy group or halogen atom; R^1 to R^8 may represent a plurality of atoms such that at least one of pairs R^1 and R^3, R^2 and R^4, R^5 and R^7, R^6 and R^8, R^1 and X^1, and R^2 and X^2 can be mutually connectable to form an aliphatic 5-membered ring or 6-membered ring, an aromatic 6-membered ring or a substituted aromatic 6-membered ring;

R^9 and R^{10} each independently represents an alkyl group, or represent =CH- which are combined to form a ring; R^{11} represents an alkyl group;

Z^1 represents a heptamethine group, which may have one or more substituents selected from alkyl groups, halogen atoms, amino groups, arylthio groups, alkylthio groups, aryloxy groups, alkoxy groups, barbituric groups and thiobartituric groups, and which may include a cyclohexene or cyclopentene ring formed by mutually bonding substituents on two methine carbons of the heptamethine group, which ring may further have a substituent selected from alkyl groups and halogen atoms; and

X^- represents a counter ion required for neutralizing an electric charge.

26. An infrared absorber according to claim 24, wherein said infrared absorber is represented by general formula (2) as follows:



(2)

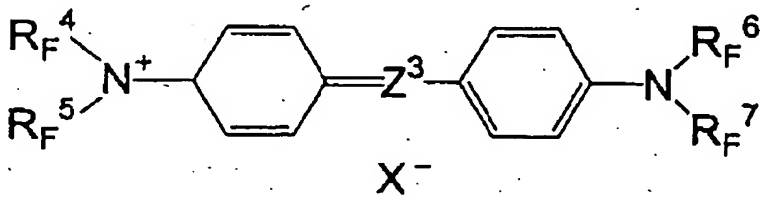
in which formula: R_F^3 represents a fluorine-containing substituent having at least 5 fluorine atoms; X^3 represents -NH-, -O- or -S-; each of R^{12} and R^{13} independently represents an alkyl group;

each of X^1 and X^2 independently represents $-CR^9R^{10}-$, -S-, -Se-, $-NR^{11}-$, -CH=CH- or -O-; R^1 to R^8 each independently represents a hydrogen atom, alkyl group, alkoxy group or halogen atom; R^1 to R^8 may represent a plurality of atoms such that at least one of pairs R^1 and R^3, R^2 and R^4, R^5 and R^7, R^6 and R^8, R^1 and X^1, and R^2 and X^2 can be mutually connectable to form an aliphatic 5-membered ring or 6-membered ring, an aromatic 6-membered ring or a substituted aromatic 6-membered ring;

R^9 and R^{10} each independently represents an alkyl group, or represent =CH- which are combined to form a ring; R^{11} represents an alkyl group; and

X^- represents a counter ion required for neutralizing an electric charge.

27. An infrared absorber according to claim 24, wherein said infrared absorber is represented by general formula (3) as follows:



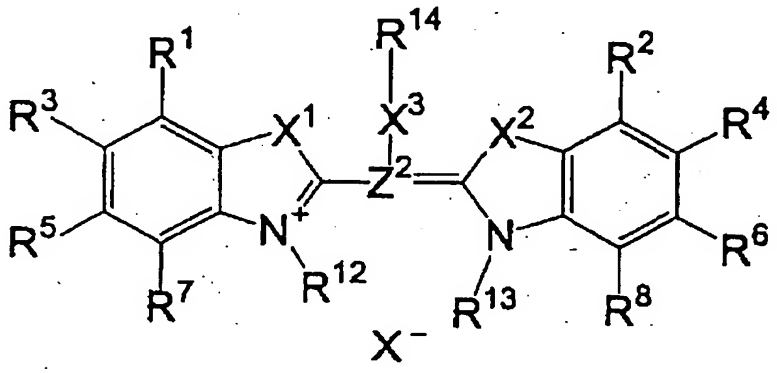
(3)

in which formula: each of R_F^4, R_F^5, R_F^6 and R_F^7 independently represents a fluorine-containing substituent having at least 5 fluorine atoms or an alkyl group, and at least one of R_F^4, R_F^5, R_F^6 and R_F^7 represents a fluorine-containing substituent having at least 5 fluorine atoms; Z^3 represents a pentamethine group, which may have a substituent selected from halogen atoms, hydroxyl groups, alkyl groups possibly having a further substituent, aryl groups possibly having a further substituent and heterocyclic groups, and which may also contain a cyclohexene or cyclopentene ring formed by mutually bonding substituents on two methine carbons of the pentamethine group, which ring may further have a substituent selected from alkyl groups and halogen atoms; and

X^- represents a counter ion required for neutralizing an electric charge.

28. An infrared absorber comprising a polymethine chain of at least 5 carbon atoms and an alkyl group of at least 8 carbon atoms, said alkyl group being connected to the polymethine chain via any of nitrogen, oxygen and sulfur.

29. An infrared absorber according to claim 28 wherein said infrared absorber is represented by general formula (4) as follows:



(4)

in which formula: R^{14} represents an alkyl group of at least 8 carbon atoms; X^3 represents -NH-, -O- or -S-; Each of R^{12} and R^{13} independently represents an alkyl group;

each of X^1 and X^2 independently represents $-CR^9R^{10}-$, -S-, -Se-, $-NR^{11}-$, -CH=CH- or -O-; R^1 to R^8 each independently represents a hydrogen atom, alkyl group, alkoxy group or halogen atom; R^1 to R^8 may represent a plurality of atoms such that at least one of pairs R^1 and R^3, R^2 and R^4, R^5 and R^7, R^6 and R^8, R^1 and X^1, and R^2 and X^2 can be mutually connectable to form an aliphatic 5-membered ring or 6-membered ring, an aromatic 6-membered ring or a substituted aromatic 6-membered ring;

R^9 and R^{10} each independently represents an alkyl group, or represent =CH- which are combined to form a ring; R^{11} represents an alkyl group; and

X^- represents a counter ion required for neutralizing an electric charge.

30. A planographic printing plate including a heat mode-applicable image-formation material, the material comprising:

a substrate; and

an image-formation layer on the substrate which contains an infrared absorption agent having at least one surface orientation group in a molecule thereof, solubility of said image-formation layer in an alkaline aqueous solution being changeable by action of near-infrared range radiation.